Evaluation of Wetland Resource Value Classification

Cytec Industries Inc.
Carteret Impoundments
Carteret, New Jersey

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Executive Summary

This report evaluates information on resource value of wetlands and width of associated transition areas to be considered for redevelopment of the Carteret Impoundments (Site) located along the Rahway River in Carteret, New Jersey. A tentative decision by the New Jersey Department of Environmental Protection (NJDEP) Land Use Regulation Program (LURP) will change the resource value classification of onsite wetlands, increasing transition area width from 50 to 150 feet along most wetland areas.

Section 1 of this report provides a brief Site description, discusses the basis of wetland resource value classification, and presents a review of permit applications submitted to and approvals by NJDEP LURP.

Section 2 discusses and evaluates the regulatory context surrounding wetland resource value classification, including relevant statutes, regulations, and supporting documents. The decision-making process of NJDEP LURP to reclassify onsite wetlands is reviewed. The basis for the reclassification of onsite wetlands is the occurrence of documented habitat for threatened species on the Site, specifically foraging habitat for black- and yellow-crowned night-herons. Two main options by which NJDEP LURP could reclassify wetlands are identified. Each option relies on several regulatory clauses and supporting documents, and each includes various interpretations and assumptions made in the decision-making process. Relevant information on each interpretation/assumption is presented, drawing from the regulatory context, a judicial decision, and professional experience.

Section 3 describes an investigation of NJDEP LURP's historic decisions on wetland resource value classification in the vicinity of the Site. To date, twelve approved NJDEP LURP permit applications have been reviewed. Results of this file review indicate that NJDEP LURP may not consistently consider night-heron habitat during its permit approval process.

Section 4 describes and evaluates potential approaches to address NJDEP LURP's tentative reclassification of wetland resource value at the Site. Possible approaches include challenges of NJDEP LURP's decision-making process and use of transition area waivers to alleviate the negative impacts of the reclassification.

Section 5 offers conclusions and recommendations of this evaluation given different scenarios and preferences of Cytec. If a short-term approach is desired, permit applications should proceed assuming transition areas identified in NJDEP LURP's tentative decision (i.e., 150 feet in most places). If a long-term approach is desired, Blasland, Bouck & Lee, Inc. (BBL) recommends that Cytec request an administrative hearing to challenge the final LOI extension decision. Several specific transition area waivers should be considered whether a short- or long-term approach is chosen.

1. Background Information

This section provides a brief site description, discusses the basis of wetland resource value classification, and presents a review of permit applications submitted to and approvals by the New Jersey Department of Environmental Protection (NJDEP) Land Use Regulation Program (LURP).

1.1 Site Description

The Carteret Impoundments (Site) are located adjacent to the Rahway River in Carteret Borough, Middlesex County, New Jersey. A site location map is presented as Figure 1. The Site occupies an approximately 120-acre parcel of land situated on Block 9.03, Lot 21; Block 10, Lots 8, 9, 10, and 12 through 21; and Block 11.01, Lots 8, 10 through 14, and 28, as designated by the Carteret Borough tax map. The 120-acre Site consists of six bermed impoundments (approximately 85 acres), tidal wetlands (approximately 35 acres), and gravel access roads.

1.2 Basis of Wetland Resource Value Classification in New Jersey

Wetlands and their transition areas (upland areas adjacent to wetlands) are regulated under the New Jersey Freshwater Wetlands Protection Act (FWPA) (New Jersey Statutes Annotated [N.J.S.A.] 13:9B). The width of a transition area is based upon a wetland's resource value classification, according to NJDEP Freshwater Wetlands Protection Act Rules (FWPA Rules) (New Jersey Administrative Code [N.J.A.C.] 7:7A). N.J.A.C. 7:7A-2.4 classifies freshwater wetlands' resource value as exceptional, intermediate, or ordinary.

Wetlands classified as exceptional meet one of the following criteria: 1) discharge into freshwater trout production waters or their tributaries; 2) are present habitat for threatened or endangered species; or 3) are documented habitat for threatened or endangered species, and remain suitable for breeding, resting, or feeding by these species during the normal period these species would use the habitat. Ordinary resource value wetlands include drainage ditches, swales, water detention facilities in uplands, and certain isolated wetlands. Intermediate resource value wetlands are defined simply as those wetlands not exceptional or ordinary. The wetland resource value classification defines transition area width as shown in the table below. Transition areas extend in an upland direction, starting at the wetland boundary.

Wetland Resource Value Classification	Exceptional	Intermediate	Ordinary
Wetland Transition Area Width	150 feet	50 feet	0 feet (i.e., no transition area)

Wetland resource value classifications and wetland boundary delineations can be estimated based on field observations, professional judgment, and guidance from relevant regulations. NJDEP LURP makes final determination of resource value classifications and wetland delineations through the Freshwater Wetlands Letter of Interpretation (LOI) process (described in N.J.A.C. 7:7A-3).

1.3 Previous Applications and Approvals

Cytec submitted an LOI application for the Site in 1997. NJDEP LURP issued (i.e., approved) the LOI for the Site on March 13, 1998 (1998 LOI issuance letter attached in Appendix A). The 1998 LOI delineated a wetland boundary that established approximately 35 acres of wetlands onsite and classified these wetlands as

intermediate resource value. This classification required a transition area 50 feet wide along onsite wetlands. Figure 2 presents the wetland boundary and transition area width established in the 1998 LOI.

An LOI is issued by NJDEP LURP for a period of 5 years, after which an application may be submitted for a 5-year extension. In February 2003, Cytec submitted an application to NJDEP LURP for an extension of the 1998 LOI. To date, NJDEP LURP has not provided a written response to this application.

Cytec submitted a Waterfront Development and Coastal Wetlands Permit to repair a bridge and perform maintenance to a berm and received approval from NJDEP LURP on February 18, 2004. The repair/maintenance activities did not occur within wetlands, but these activities did occur within transition areas. A permit was not required for the transition area impacts because repair/maintenance activities for structures lawfully existing prior to July 1, 1989 (e.g., the bridge and berm) do not require freshwater wetlands permits or transition area waivers (N.J.A.C. 7:7A-2.6(b)1.i.(8)).

1.4 Tentative LOI Extension Decision from NJDEP

On several occasions, most recently at a meeting on October 12, 2004 and during a phone conversation on November 16, 2004, representatives of NJDEP LURP have indicated that the resource value of most onsite wetlands will be reclassified as exceptional when the LOI extension request is approved. As such, transition area width for most onsite wetlands will increase from 50 feet to 150 feet. During the November 16, 2004 phone conversation, a representative of NJDEP LURP emphasized that the LOI extension request was still pending and the reclassification of wetland resource value should be considered tentative.

In this tentative decision, representatives of NJDEP LURP have specified which onsite wetlands should remain classified as intermediate resources value:

- wetlands in a small inlet on the east side of Impoundment 5;
- wetlands between Impoundments 1 and 2; and
- wetlands between Impoundment 1 and the adjacent tank farm.

Wetland areas not specified above are expected to be reclassified as exceptional. The wetland boundary established in the 1998 LOI is not expected to change when the LOI extension request is approved. Figure 3 shows the wetland boundary and transition areas assuming the reclassification becomes final. The tentative increase in transition area width would decrease the area of upland (i.e., non-wetland and non-transition area) impoundment from approximately 78.6 to 59.1 acres, a decrease of approximately 25%.

2. Explanation and Evaluation of Regulatory Context

This section describes and evaluates the regulatory context surrounding wetland resource value classification and reviews the decision-making process of NJDEP LURP to reclassify onsite wetlands.

2.1 Relevant Laws, Regulations, and Documents

NJDEP LURP can rely on the following laws, regulations, and guidance documents to classify onsite wetlands as exceptional resource value:

- 1. Definition of exceptional resource value wetlands found in the FWPA Rules that considers presence of documented habitat for threatened or endangered species. This regulatory definition closely follows the statutory definition found in the FWPA.
- 2. Definition of "documented habitat for threatened or endangered species" found in the FWPA Rules.
- 3. Clause in the FWPA Rules that identifies the Landscape Project maps for identifying documented habitat for threatened or endangered species. The FWPA Rules refer to the "freshwater wetlands technical manual" for detailed guidance on how to use the Landscape Project maps.
- 4. NJDEP guidance document (the 2004 Protocol) that describes the process of using Landscape Project maps to classify wetlands as exceptional resource value. The 2004 Protocol is the substantive part of the freshwater wetlands technical manual identified in the FWPA Rules.
- 5. NJDEP publication (Niles et al. 2004) that provides a description of the Landscape Project and of habitats for various threatened and endangered species. The information in Niles et al. 2004 was substantiated during a telephone conversation between Ryan Szuch of Blasland, Bouck & Lee, Inc. (BBL) and Dave Jenkins of NJDEP Endangered and Nongame Species Program (ENSP). There is no reference to Niles et al. 2004 in the FWPA Rules nor the 2004 Protocol.

The Landscape Project mentioned above is an effort by ENSP to map critical wildlife habitat throughout the state. Landscape Project habitat maps are an approximation based on aerial photograph interpretation and are available to the public via the NJDEP website.

2.2 Decision-Making Process of NJDEP

A review of the above laws, regulations, and documents provides a basis for the following description of NJDEP LURP's decision-making process for reclassifying onsite wetlands as exceptional resource value. Two main approaches for reclassifying onsite wetlands as exceptional resource value exist: Option A relies on sources 1, 3, 4, and 5 cited in Section 2.1; and Option B relies only on sources 1, 2, and 5.

2.2.1 **Option A**

For Option A, a definition of exceptional resource value wetlands applicable at the Site is found at N.J.A.C. 7:7A-2.4(b)3:

[A freshwater wetland which] is a documented habitat for threatened or endangered species, and which remains suitable for breeding, resting, or feeding by these species during the normal period these species would use the habitat.

At N.J.A.C. 7:7A-2.4(c), the FWPA Rules specifically identify the Landscape Project maps as a tool for identifying present or documented habitat for threatened or endangered species:

The Department identifies present or documented habitat for threatened or endangered species for purposes of (b) above using the Landscape Project method...the details of this method are described in the Land Use Regulation Program's freshwater wetlands technical manual...

The 2004 Protocol (part of the freshwater wetlands technical manual) provides several steps for estimating a wetland's resource value classification, which are summarized in three steps below, along with implications for the Site.

<u>Step 1</u> – Identify areas of documented habitat for threatened or endangered species on the subject property by using the Landscape Project maps.

According to the Landscape Project maps for emergent wetlands (available via NJ-iMAP online tool), sections of the Site are identified as documented foraging habitat for black- and yellow-crowned night-herons, which are both state threatened species. Figure 4 presents the Landscape Project map that shows night-heron foraging habitat on the Site. As shown in Figure 4, much of the Site is not mapped as documented night-heron foraging habitat, such as Impoundment 4, Impoundment 5, and most of Impoundment 6. Furthermore, there are apparent inaccuracies in the Landscape Project maps. For example, areas known to be upland (e.g., interior of impoundments) are mapped as emergent wetland. However, in the 2004 Protocol, NJDEP LURP cautions against a literal interpretation of the Landscape Project maps:

The Department notes that the Landscape Project maps represent an approximation of the location and extent of "documented" endangered or threatened species habitat. Because these maps are based on [aerial photographs] they do not replace a case by case assessment of the wetlands on any particular property.

This indicates that in the case of the Site, NJDEP LURP can alter the extent of documented habitat to include or exclude areas not initially mapped by the Landscape Project.

<u>Step 2</u> – Identify whether wetlands delineated on the subject property are mapped as documented habitat for threatened or endangered species.

This step is completed by comparing delineated wetlands on the Site (based on LOI, as shown in Figure 2) with documented night-heron foraging habitat (Figure 4) and identifying where the delineated wetlands and documented habitat overlap. Based on a literal interpretation of the Landscape Project maps, some wetlands delineated on the Site lie within areas mapped as documented night-heron foraging habitat. Conversely, other onsite wetlands (e.g., adjacent to the Rahway River along Impoundments 4 and 5) do not lie within areas mapped as documented foraging habitat.

Interpretation of Step 2 for the Site is complicated by the inaccuracies of the Landscape Project maps, as discussed under Step 1. Again, it appears that NJDEP LURP can alter the extent of documented habitat (based on a "case by case assessment") to include those wetland areas not initially mapped by the Landscape Project.

<u>Step 3</u> – Compare characteristics of wetlands on the subject property with the species-specific habitat discussions (i.e., criteria for suitable habitat) provided in the 2004 Protocol. If characteristics of wetlands on the subject property match the habitat discussions, the wetlands may receive an exceptional resource value classification.

The interpretation of Step 3 for the Site is not straightforward because no species-specific habitat discussions for night-herons are provided in the 2004 Protocol. The 2004 Protocol addresses this as follows:

The absence of a protocol [i.e., habitat discussion] for a particular endangered or threatened species does not prevent wetland habitats being used by such species from being designated as exceptional resource value on a case by case basis. Such listed species [on the state's threatened or endangered list] as Cooper's hawks (Accipter cooperii), yellow-crowned night-herons (Nyctanassa violaceus), or peregrine falcons (Falco peregrinus) may rely upon freshwater wetland habitats for their continued existence in certain circumstances.

This suggests that in the case of the Site, NJDEP LURP can consider habitat for yellow-crowned night-heron (and presumably black-crowned night-heron) for designation of onsite wetlands as exceptional resource value. However, it is unclear what criteria or standard NJDEP LURP can use to evaluate foraging habitat for night-herons.

In the absence of a habitat discussion for night-herons in the 2004 Protocol, NJDEP LURP can refer to Niles et al. (2004) for a description of nesting and foraging habitat for night-herons. Niles et al. (2004) describes foraging habitat for night-herons as:

...all emergent wetlands, all tidal creeks and ditches, and all open waters within 90 meters of the shoreline within the foraging radius of a known nesting colony.

Niles et al. (2004) also specifies the foraging radius from nesting colonies of both black- and yellow-crowned night-herons as 6 miles and 1.7 miles, respectively. A map of night-heron nesting colonies is not available from NJDEP; however, in a telephone conversation with Ryan Szuch (BBL) on August 23, 2004, Dave Jenkins (NJDEP ENSP) reported that Isle of Meadows and Shooters Island are identified as nesting colonies for these species. The Site appears to be within the specified radius of Isle of Meadows for both night-herons and of Shooters Island for black-crowned night-herons. Thus, according to information from Niles et al. (2004) and Dave Jenkins, onsite wetlands appear to be documented habitat for threatened species and therefore would be classified as exceptional resource value. While this is the case, it should be noted that no statute or regulation references Niles et al. (2004) and no document has been identified that confirms the information from Dave Jenkins regarding night-heron nesting colonies.

2.2.2 Option B

Option B relies on the same applicable regulatory definition of exceptional resource value wetlands found in the FWPA Rules at N.J.A.C. 7:7A-2.4(b)3:

[A freshwater wetland which] is a documented habitat for threatened or endangered species, and which remains suitable for breeding, resting, or feeding by these species during the normal period these species would use the habitat.

Rather than evaluating documented habitat using Landscape Project maps, Option B then follows the definition of "documented habitat for threatened or endangered species" found at N.J.A.C. 7:7A-1.4.

"Documented habitat for threatened or endangered species" means areas for which:

- 1. There is recorded evidence of past use by a threatened or endangered species of flora or fauna for breeding, resting, or feeding. Evidence of past use by a species may include, but is not limited to, sightings of the species, or of its sign (for example, skin, scat, shell, track, nest, herbarium records, etc.), as well as identification of its call; and
- 2. The Department makes the finding that the area remains suitable for use by the specific documented threatened or endangered species during the normal period(s) the species would use the habitat.

To satisfy the first component of this definition, recorded evidence of past use by a threatened species could be demonstrated by either the Landscape Project map (see above) or by the New Jersey Natural Heritage Program (part of the Division of Parks and Forestry - Office of Natural Lands Management). Both the Landscape Project map and a report from the Natural Heritage Program (Appendix B) identify occurrence of black- and yellow-crowned night-heron foraging habitat at the Site.

In the definition above, NJDEP LURP does not specify what method/process will be employed to make "the finding that the area remains suitable." To satisfy this second component of the definition, NJDEP can find the area to remain suitable for use by night-herons by applying Niles et al. (2004) (as described above), by completing a habitat evaluation, or by other means at its discretion. As such, onsite wetlands would appear to be documented habitat for threatened species and therefore would be classified as exceptional resource value.

2.3 Interpretations and Assumptions in Decision-Making Process of NJDEP

NJDEP LURP appears to have made various interpretations and assumptions within the decision-making options outlined in Section 2.2. This section provides a list of these interpretations/assumptions, followed by information that either supports or contradicts the interpretation/assumption. Information relevant to each interpretation/assumption has been drawn from the regulatory context, known judicial decisions, and professional experience.

2.3.1 **Option A**

The interpretations/assumptions identified for Option A are listed below, along with relevant information for each.

- The Landscape Project is an acceptable source for identifying documented habitat of threatened or endangered species.
 - o This assumption has a regulatory basis in the FWPA Rules at N.J.A.C. 7:7A-2.4(c) (Section 2.2.1).
 - o The use of Landscape Project maps to classify wetlands as exceptional resource value was challenged in court by the New Jersey Builders Association. In December 2003, the Superior Court of New Jersey ruled that the "DEP's effort to adopt a more protective approach through the Landscape Project method is neither inconsistent with the governing statute, unsupported by the record, nor arbitrary or capricious."

- o The FWPA Rules allow an applicant to request that a documented habitat not result in classification as exceptional resource value (Section 4.1.1).
- The 2004 Protocol provides an acceptable procedure for determining exceptional resource value of wetlands.
 - o The 2004 Protocol is referenced in the FWPA Rules, via a reference to the freshwater wetlands technical manual.
 - o The 2004 Protocol explicitly describes its legal basis (on page 4 of 2004 Protocol), citing authority given in the FWPA and FWPA Rules.
 - o The 2004 Protocol is the third edition of NJDEP's guidance on how to classify freshwater wetlands based on documentation of threatened or endangered species.
 - o The 2004 Protocol does not appear to have been challenged in court.
- The Landscape Project accurately maps night-heron foraging habitat on the Site.
 - o The 2004 Protocol recognizes that the Landscape Project maps are an approximation (Section 2.2.1).
 - o The Superior Court of New Jersey upheld NJDEP's decision to use the Landscape Project to map threatened or endangered species habitat.
 - o The FWPA Rules allow an applicant to request that a documented habitat not result in classification as exceptional resource value (Section 4.1.1).
- NJDEP LURP has the authority to amend the extent of night-heron foraging habitat mapped by the Landscape Project on a case-by-case basis.
 - o The 2004 Protocol recognizes that the Landscape Project maps are an approximation and states that the maps "do not replace a case by case assessment of the wetlands on any particular property" (Section 2.2.1).
 - o The FWPA Rules allow an applicant to request that a documented habitat not result in classification as exceptional resource value (Section 4.1.1).
- NJDEP LURP has the authority to consider species other than those listed in the 2004 Protocol when classifying resource value of wetlands.
 - o The 2004 Protocol includes habitat criteria for threatened or endangered species commonly found in wetlands, and it recognizes that threatened or endangered species not included can be found in wetlands.
 - o The FWPA Rules specifically define "threatened or endangered species" as "a species identified pursuant to the Endangered and Nongame Species Conservation Act, N.J.S.A. 23:2A-1 et seq., or those identified pursuant to the Endangered Species Act of 1973, 16 U.S.C.

§§1531 et seq., and subsequent amendments thereto. Black- and yellow-crowned night-herons are listed as threatened species by the ENSP.

- NJDEP LURP can rely on Niles et al. (2004) for a description of night-heron habitat.
 - o Niles et al. (2004) is not specifically referenced in statute, regulation, or in the 2004 Protocol.
 - o Niles et al. (2004) was peer-reviewed (primarily by staff at Rutgers University and by other NJ state employees) but was not published in a peer-reviewed journal/serial.
 - o Niles et al. (2004) appears to be the only NJDEP document that describes night-heron habitat.
 - o A conversation with Dave Jenkins, a representative of NJDEP ENSP, supported the habitat descriptions in Niles et al. (2004).
- Information on nesting colonies provided by Dave Jenkins is accurate.
 - o A map of nesting colonies in New Jersey does not appear to be available to the public.
 - O Landscape Project maps cannot show whether or not Shooters Island or Isle of Meadows are night-heron nesting habitat because these islands are located in New York state and thus are beyond the extent of Landscape Project maps.

2.3.2 Option B

The interpretations/assumptions identified for Option B are listed below, along with relevant information for each.

- The Landscape Project OR the Natural Heritage Program is an acceptable source for identifying past use of an area by threatened or endangered species.
 - o The Superior Court of New Jersey upheld NJDEP's decision to use the Landscape Project to map threatened or endangered species habitat.
 - o The Natural Heritage Program states that its database is based upon observations and reports of threatened or endangered species from many individuals and organizations. A Natural Heritage Program report includes an explanation of "Cautions and Restrictions on Natural Heritage Data" (see Appendix B). This explanation includes the following statement: "Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey."
 - o Information from the Natural Heritage Program's database does not appear to have been challenged in court in recent years.
 - The actual database used by the Natural Heritage Program to generate reports is not available for public review.
- NJDEP LURP made an acceptable finding that the Site remains suitable for night-herons by applying Niles et al. (2004) OR by some other means.

o In its definition of "documented habitat for threatened or endangered species," NJDEP LURP does not specify what method/process will be employed to make such a finding.

Based on the information presented in Section 2.3, several approaches could be used to address NJDEP LURP's tentative decision to reclassify some onsite wetlands as exceptional resource value. These potential challenges are reviewed in Section 4.

3. Investigation of Historic Decisions on Wetland Resource Value Classification in Vicinity

To supplement the evaluation of regulatory context provided in Section 2, BBL performed an investigation of NJDEP LURP's historic decisions on wetland resource value classification in the vicinity of the Site. The goal was to find examples of rulings by NJDEP LURP on nearby sites with characteristics similar to the Site.

3.1 Methods of Investigation

The investigation was initiated through the use of several public NJDEP databases. These databases were used to identify relevant permit applications, and available files were then reviewed at NJDEP LURP office. The methodology and current results are presented below and can be updated upon request.

3.1.1 DEP Bulletin Search

NJDEP publishes the "DEP Bulletin" on a semi-monthly basis and posts this publication on the internet at [http://www.state.nj.us/dep/bulletin/]. The DEP Bulletin contains a list of permit applications recently filed or acted upon by NJDEP.

When an impact to freshwater wetlands is proposed in a development project, a Freshwater Wetlands General Permit (GP) or Individual Permit (IP) must be obtained from NJDEP LURP. If the site of proposed development does not already have an LOI, then a wetland delineation may be performed specifically for the GP/IP. In such a case, NJDEP LURP approval process for the GP/IP will include a verification of the wetland boundary and a classification of wetland resource value.

In February of 2004, NJDEP LURP published the 2004 Protocol and updated the Landscape Project maps to version 2. The Landscape Project version 1 maps are no longer available. For a valuable comparison between NJDEP LURP decision at another site and its tentative decision at the Site, BBL mainly considered applications submitted since the 2004 update to the Landscape Project maps.

The DEP Bulletin search focused on applications for LOI, GP, and IP that were made during or after February 2004 in the municipalities of Carteret, Perth Amboy, Woodbridge, and Linden. Several applications that were beyond the focus of the search were included because of a special interest in their site location or applicant. Appendix C presents the 74 permit applications identified in this search.

3.1.2 DEP Data Miner Search

BBL collected additional information on permit applications identified in the DEP Bulletin Search through the DEP Data Miner. The DEP Data Miner is a website [http://www.state.nj.us/dep/opra/opraform.html] operated as part of the Open Public Records Act (OPRA). Through the DEP Data Miner, BBL was able to obtain information on recent actions for each permit application, including whether the permit had been approved. Appendix C presents a summary of the information obtained in this search.

3.1.3 Permit Application File Review

Relevant permit application files were selected based on their submission date and approval status. BBL submitted a request to NJDEP LURP to review 25 relevant permit application files. Table 1 lists the requested files. BBL staff visited NJDEP LURP offices on November 29, 2004 to review available files. Unavailable files (actively being used by NJDEP LURP project managers) can be reviewed at a later date.

3.2 Results of Investigation

Twelve permit applications have been reviewed, including four LOI, a Transition Area Averaging Plan, and seven GP (Table 1). The LOI provide limited value in comparison to the Site because Landscape Project maps do not identify threatened or endangered species habitat on the properties. One GP, applied for by Praxair Inc., did not provide a valuable comparison because the LOI considered in the application was performed in 2001, prior to the switch to Landscape Project version 2. The remaining GP and Transition Area Averaging Plan were for the Arthur Kill Waterfront Park (AKWP) (NJDEP LURP File No. 1201-02-0003.1), and this project provides a valuable comparison with the Site.

The AKWP is a project of the Borough of Carteret. The AKWP is located in Carteret along the Arthur Kill near the intersection of Industrial Way and Middlesex Avenue. The AKWP is being completed in several phases. The first phase appears to have been permitted and completed in late 2002 to early 2003. Based on the DEP Data Miner search, an LOI was submitted for the AKWP on June 27, 2003 and approved by NJDEP LURP on November 12, 2003. This LOI classified onsite wetlands as either ordinary or intermediate resource value. This classification by NJDEP LURP would have considered Landscape Project version 1 maps, not the version 2 maps currently being used to assess the Site. Permits for the second phase were received by NJDEP LURP on February 26, 2004. Permit applications received around this time included several GP, a Transition Area Averaging Plan, and a Waterfront Development permit. The permits were approved on May 25, 2004.

Because the application for the second phase of the AKWP was received on February 26, 2004, Landscape Project version 2 maps should have been used to review the application. The Landscape Project version 2 map for emergent wetlands identifies a patch of black- and yellow-crowned night-heron foraging habitat on the AKWP property, but threatened or endangered species habitat was dismissed in the Waterfront Development application and not commented on in NJDEP LURP approval. In regards to N.J.A.C. 7:7E-3.38 (relevant rules involving threatened or endangered species for Waterfront Development permits) the application stated:

The project site is in a heavily industrialized and developed portion of the Borough of Carteret. As such, the site is not occupied by threatened or endangered species. As such, the project will not have an adverse impact on such wildlife or their habitat.

As stated above, the approved LOI for the AKWP classified onsite wetlands as ordinary or intermediate resource value. The LOI approval letter states the following:

It should be noted that this determination of wetland classification is based on the best information presently available to the Department. The classification is subject to change if this information is no longer accurate, or as additional information is made available to the Department, including, but not limited to, information supplied by the applicant.

This statement suggests that NJDEP LURP could have considered the night-heron foraging habitat mapped on the AKWP by version 2 of the Landscape Project maps. Consideration of this habitat might have impacted NJDEP LURP's classification of wetland resource value or its decision to approve GP for wetland impacts on

the site. Although the Landscape Project mapped similar habitat on the AKWP and the Site, it would not appear that NJDEP LURP gave consideration to night-heron habitat on the AKWP. It should be noted that NJDEP LURP has recognized that the Landscape Project maps are an approximation and that they do not replace a case-by-case assessment of wetland resource value. Based on this file review, there is no indication whether NJDEP LURP did or did not perform an assessment to evaluate presence or absence of night-heron habitat on the AKWP.

4. Potential Approaches to Address Reclassification of Wetland Resource Value

The tentative reclassification of wetland resource value by NJDEP LURP will cause an approximate 25% reduction in developable land area at the Site (Section 1.4). This potential impact to redevelopment plans can be addressed through two general approaches:

- 1. The decision-making process of NJDEP LURP to reclassify some onsite wetlands as exceptional resource value can be challenged. This approach would seek to prevent all or some onsite wetlands from being reclassified as exceptional resource value.
- 2. A transition area waiver (TAW) could be obtained to minimize negative impacts of NJDEP LURP's decision on redevelopment plans. Regardless of whether the first approach is pursued, some type of TAW will be necessary to allow for and/or minimize regulated activities in transition areas.

Specific options for each general approach are described below.

4.1 Challenges of NJDEP LURP's Decision-Making Process

Based on the information presented in Sections 2 and 3, several challenges could be made regarding NJDEP LURP's tentative decision to reclassify some onsite wetlands as exceptional resource value. Potential challenges include:

- a request that documented habitat not result in exceptional resource value classification;
- a challenge of the Landscape Project maps;
- a challenge of the Natural Heritage Database; and
- an administrative hearing to challenge the LOI decision.

Each of these options would likely entail intensive data collection/literature review efforts and would involve administrative processes and/or negotiations over an extended period of time.

4.1.1 Request that Documented Habitat Not Result in Exceptional Resource Value Classification

The FWPA Rules, at N.J.A.C. 7:7A-2.4(c), allow for an applicant to request that a documented habitat for threatened or endangered species not result in the classification of wetland as exceptional resource value.

An applicant may request that a documented habitat [for threatened or endangered species] not result in the classification of a freshwater wetland as a freshwater wetland of exceptional resource value. Such a request shall include a demonstration of the long-term loss of one or more habitat requirements of the specific documented threatened or endangered species, including, but not limited to, wetlands size or overall habitat size, water quality, or vegetation density or diversity. Upon such request, the Department shall review all available information, and shall make a final classification of the wetland.

In the Site's case, the Landscape Project maps show a "documented habitat" overlapping at least some onsite wetlands (Section 2.2.1). To make the request above, a scientific study and/or literature review would need to demonstrate the long-term loss of habitat requirements onsite for both black- and yellow-crowned night-herons.

Demonstrating long-term loss of a habitat requirement would first require a literature review to identify habitat requirements of night-herons. Then, further literature research and scientific field studies would be necessary to demonstrate that one or more of the identified requirements is not present at the Site. Such a study would probably need to occur over several years to demonstrate that the lack of a given requirement is indeed a long-term loss, and not a temporary condition. An illustrative example would be to demonstrate that crabs and other crustaceans, which are the main food source of yellow-crowned night-herons, do not occur in great numbers in the waters/wetlands adjacent to the Site. It is important to recognize that a scientific study/literature review may not yield adequate results to demonstrate long-term loss of habitat requirements, and thus may not alter the final classification of the wetland.

A demonstration of long-term loss of habitat requirements for night-herons would be analogous to challenging Niles et al. (2004). According to the definition of night-heron foraging habitat in Niles et al. (2004), the Site does contain night-heron foraging habitat (Section 2.2.1). A challenge to Niles et al. (2004) would need to demonstrate a fault in part of its definition. For example, a challenge would need to demonstrate that the foraging radii of night-herons listed in Niles et al. (2004) are inaccurate. The scientific study and/or literature review necessary to challenge Niles et al. (2004) would be similar to those discussed above.

4.1.2 Challenge of the Landscape Project Maps

Challenging the use of or accuracy of the Landscape Project maps does not appear to be a productive course of action. As discussed in Section 2.3.1, the use of Landscape Project to map documented habitats has been challenged by the NJ Builders Association and upheld in NJ Superior Court. Additionally, because the Landscape Project maps are based on aerial photograph interpretation and are recognized by NJDEP as an approximation of habitat locations, it is reasonable for NJDEP LURP to allow for case-by-case verification and modification of the areas identified as habitat.

4.1.3 Challenge of the Natural Heritage Program Database

Challenging the use of or accuracy of the Natural Heritage Program database could be successful; however, this course of action is unlikely to be productive. Documented night-heron habitat has been identified onsite via both the Landscape Project maps and the Natural Heritage Program report (Section 2.2.2). Thus, a successful challenge of the Natural Heritage Program would appear to be futile without a corresponding successful challenge of the Landscape Project maps. A successful challenge of the Landscape Project maps is unlikely (section 4.1.2).

4.1.4 Administrative Hearing to Challenge an LOI Decision

The FWPA Rules, at N.J.A.C. 7:7A-1.7, allow for an applicant (or third party) to request a hearing to contest NJDEP LURP's decision on a LOI (including classification of wetland resource value). The procedures for requesting a hearing and the hearing process are explained at N.J.A.C. 7:7A-1.7 and may involve the Administrative Procedures Act (N.J.S.A. 52:14B-1) and the Uniform Administrative Procedure Rules (N.J.A.C. 1:1).

A hearing to contest NJDEP LURP's decision could be based on the following three items:

1) The long review period for the LOI extension (submitted February 2003) and conversations/meetings with NJDEP LURP staff suggest that NJDEP LURP may be considering potential Site redevelopment options in their decision on the LOI extension. Potential reclassification of wetland resource value in the LOI extension should

be based on established regulations/procedures and on onsite habitat characteristics. It seems inappropriate for future landuse to be considered in the LOI decision.

- 2) In the tentative decision on the Site's LOI extension, the manner by which NJDEP LURP reclassified some onsite wetlands as exceptional resource value and left others as intermediate seems to lack a regulatory or scientific basis. The distinction between areas left as intermediate and areas reclassified as exceptional does not appear to be founded in the FWPA Rules, 2004 Protocol, or Niles et al. 2004. (It should be recognized that raising this point brings the potential risk that NJDEP LURP would instead reclassify all onsite wetlands as exceptional.)
- 3) The AKWP file review (Section 3.2) indicates that NJDEP LURP approved Waterfront Development and GP permit applications for the AKWP without consideration of threatened species habitat mapped on the site by the Landscape Project.

Based on past experience, administrative hearings of this kind do not typically conclude in court but instead are settled through negotiations. The negotiation and/or hearing process may take one to several years to conclude. Further consideration of an administrative hearing is beyond the scope of this report. An administrative hearing is a very public process, which brings certain risks. The merits of requesting an administrative hearing should be evaluated by experts in New Jersey environmental and administrative law.

4.2 Transition Area Waivers

TAW described in the FWPA Rules at N.J.A.C. 7:7A-6 are issued by NJDEP LURP. TAW serve two general functions:

- allow regulated activities within transition areas, or
- change the shape or size of transition areas to facilitate development plans.

The seven types of TAW described in the FWPA Rules are listed below. As identified below, some TAW carry restrictions that make them inapplicable to the Site.

- 1. Averaging Plan TAW This TAW changes the shape of the transition area without changing the overall size of the transition area. This is done by varying the width of the transition area, within a specified range. As described in Section 4.2.1, this TAW has merit at the Site and would likely be beneficial regardless of other challenges made or TAW obtained.
- 2. Special Activity TAW This TAW allows regulated activities within a transition area for "special activities" identified in the FWPA Rules. As described in Section 4.2.2, several of the special activities may be relevant at the Site.
- 3. Matrix Type Width Reduction TAW This TAW allows a reduction in the width of a transition area. As described in Section 4.2.3, due to certain restrictions, this TAW appears inapplicable on the Site.
- 4. Hardship TAW This TAW allows a reduction in the width of a transition area. As described in Section 4.2.4, this TAW appears inapplicable on the Site.
- 5. General Permit TAW This TAW allows regulated activities within a transition area. Activities allowed under this TAW are listed in the FWPA Rules for GP. As described in Section 4.2.5, this TAW is relevant at the Site and appears necessary for redevelopment.

- 6. Access TAW This TAW allows activities associated with other permits to be performed within a transition area. As described in Section 4.2.6, this TAW is relevant at the Site in association with other TAW.
- 7. Unique TAW This type of TAW is not specifically described in the FWPA Rules, but the Rules do allow for a site-specific TAW if none of the TAW listed above apply to the site. As described in Section 4.2.7, such an application could be possible for the Site.

4.2.1 Averaging Plan TAW

An Averaging Plan TAW changes the overall shape of a transition area without reducing its total surface area. Averaging Plan TAW can be used adjacent to either intermediate or exceptional resource value wetlands. In the FWPA Rules at N.J.A.C. 7:7A-6.2, numerous conditions and requirements for Averaging Plan TAW are described. Meeting these conditions/requirements requires careful evaluation of site conditions and redevelopment plans. An Averaging Plan TAW must be submitted to NJDEP LURP for review and approval with a Waterfront Development application. This type of TAW appears suitable for the Site and could facilitate maximal use of upland areas for redevelopment.

4.2.2 Special Activity TAW

Four types of Special Activity TAW are described in the FWPA Rules at N.J.A.C. 7:7A-6.3:

- a Stormwater Management TAW;
- a Linear Development TAW;
- a Redevelopment TAW; and
- an Individual Permit TAW.

A Stormwater Management TAW is only allowed when there is no feasible alternative onsite location for a stormwater management facility. This appears inapplicable for the Site.

A Linear Development is defined in N.J.A.C. 7:7A-1.4 as developments such as roads and underground utility lines. Thus, a Linear Development TAW is not applicable for the Site.

A Redevelopment TAW is allowed when the transition area to be disturbed is not functioning as a transition area at the time of the application. While this may appear to be applicable at the Site, due to the constructed berms and invasive species dominating the Site, details in the regulations appear to prohibit a Redevelopment TAW being used for the Site. One condition for a Redevelopment TAW from N.J.A.C. 7:7A-6.3(f) is as follows:

The area of proposed activity is significantly disturbed so that it is not functioning as a transition area at the time of application, for example, the area is covered by an impervious surface such as pavement, or by gravel or paver blocks. For example, a lawn is not considered to be so significantly disturbed that it is not functioning as a transition area.

If a lawn would not be considered for a Redevelopment TAW, it may be unreasonable to expect that an area vegetated with invasive species would be considered. Based on the above example, vegetation of any kind appears to be acceptable as a functioning transition area. An argument could be made that the impounded material and cap does not provide a sustainable functioning transition area and therefore, a Redevelopment TAW may be applicable for the Site.

An Individual Permit TAW may be issued for an activity that meets the conditions set forth for a freshwater wetland individual permit, listed at N.J.A.C. 7:7A-7. These conditions are extensive and stringent, particularly for non-water-dependent activities. Water-dependent activities are defined in N.J.A.C. 7:7A-1.4 as follows.

Water-dependent activity means an activity that cannot physically function without direct access to the body of water along which it is proposed. An activity that can function on a site not adjacent to the water is not considered water dependent regardless of the economic advantages that may be gained from a waterfront location.

As the tentative redevelopment plans for the Site do not constitute a water-dependent activity, it is unlikely that NJDEP LURP would approve an Individual Permit TAW. Depending on the final redevelopment plans, this type of TAW could be given further consideration.

4.2.3 Matrix Type Width Reduction TAW

A Matrix Type Width Reduction TAW can be used adjacent to either intermediate or exceptional resource value wetlands to change the width of the associated transition area. The change in transition area width is dependent upon the slope of the transition area, the dominant vegetation community in the transition area, and the development intensity of the proposed project. The method for combining these factors to establish a new transition area width are given at N.J.A.C. 7:7A-6.4.

Certain conditions apply depending on whether the adjacent wetland is intermediate or exceptional resource value. For transition areas adjacent to intermediate resource value wetlands on the Site, this type of permit appears applicable. For transition areas adjacent to exceptional resource value wetlands on the Site, this type of permit appears inapplicable for several reasons.

A Matrix Type Width Reduction TAW cannot be used for transition areas adjacent to exceptional resource value wetlands unless both of the following criteria are met (as given at N.J.A.C. 7:7A-6.4(c)):

- 1. The wetland is located on a tributary to an FW1 water or on a tributary to an FW2 trout production water; and
- 2. The wetland does not:
 - a. Contain a present or documented habitat for threatened or endangered species, as defined at N.J.A.C. 7:7A-1.4; or
 - b. Discharge into FW1 waters or trout production waters.

The reference to FW1 and FW2 waters refers to a section of the NJ Surface Water Quality Standards (N.J.A.C. 7:9B). In these regulations, the Rahway River is identified as a SE3 (saline estuarine) water, which means that onsite wetlands do not meet criterion 1 above. Unless the tentative reclassification of some onsite wetlands as exceptional resource value is successfully challenged (as described in Section 4.1), onsite exceptional resource value wetlands contain documented habitat for threatened species, which means that onsite wetlands do not meet criterion 2-a above.

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4.2.4 Hardship TAW

A Hardship TAW is applicable at sites that are not susceptible to a reasonable use if developed as authorized in the FWPA Rules, and this limitation to development results from unique circumstances particular to the site. Circumstances and criteria for a Hardship TAW are given at N.J.A.C. 7:7A-6.5. For example, the criteria at N.J.A.C. 7:7A-6.5(b)7 states the following:

The applicant has offered the site for sale at fair market value to adjacent property owners and the offer was refused.

This criterion has not been met to date and appears to be an unreasonable course of action at this time. Thus, due to this and other circumstances/criteria, it appears that a Hardship TAW is not applicable for the Site.

4.2.5 General Permit TAW

A GP can be obtained for impacts to freshwater wetlands or transition areas for specific activities in the FWPA Rules at N.J.A.C. 7:7A-5. When a GP authorizes disturbance of a transition area, the GP constitutes a TAW for the activities covered by the GP. There are 27 activities listed in the FWPA Rules that can qualify for a GP. For example, redevelopment plans for the Site might require a GP4 (hazardous site investigation and cleanup) or a GP11 (stormwater outfall and intake structures). A general permit TAW from a GP4 will authorize impacts to transition areas associated with the site investigation and cleanup activities. Each GP has specific conditions and requirements for impacts to transition areas. A GP TAW must be submitted to NJDEP LURP for review and approval with a Waterfront Development application. It is anticipated that, at a minimum, a GP4 will be required for stabilizing and filling the berms/impoundments within the transition areas, and a GP11 will be required for constructing stormwater outfalls. In addition, it is anticipated that restoration of disturbed transition areas will be required under the GP4. On this basis, a plan for restoration of disturbed transition areas should be included in the application for the GP4.

4.2.6 Access TAW

An Access TAW authorizes limited impacts on transition areas to allow access for activities already permitted under a GP, IP, or mitigation proposal (i.e., the permitted activity). An Access TAW allows regulated activities only in the portion of a transition area bordering the area impacted by the permitted activity. Also, an Access TAW only allows activities that NJDEP determines are necessary to accomplish the permitted activity.

4.2.7 Unique TAW

If a proposed development plan does not meet the requirements of one of the other TAW, an applicant may obtain a TAW through "scientifically documenting that a proposed activity will have no substantial impact on the adjacent wetlands" (N.J.A.C. 7:7A-6.1(g)). No name is given to this type of TAW in the FWPA Rules, but in this report is referred to as a Unique TAW. Several scientific models and methods are suggested in the FWPA Rules to document the proposed activity's impacts. An application for a Unique TAW must address the following criteria, as they relate to adjacent wetlands:

- sediment transport and removal;
- nutrient transport and removal;
- pollutant transport and removal;
- impacts on sensitive species; and

• surface water quality impacts.

A Unique TAW would likely require more time and effort relative to other TAW.

5. Conclusions and Recommendation

This report discusses the combination of laws, regulations, and documents that provide the regulatory context for NJDEP LURP's tentative decision to reclassify most onsite wetlands as exceptional resource value. Although many interpretations and assumptions are inherent to NJDEP LURP's decision-making process, most of these appear to have basis in the relevant regulations or are explained in the relevant regulatory support documents. Several potential approaches are available to address NJDEP LURP's tentative decision, including a challenge of the decision and application for one or more TAW. The recommended course of action would depend on the time-frame in which Cytec desires to move forward. Note that if NJDEP LURP reverts back to the wetland resource value classification in the 1998 LOI (i.e., no onsite wetlands are reclassified as exceptional), the TAW outlined in Section 5.3 would still be recommended.

The time-frame in which Cytec desires to move forward is influenced by the potential risk that the Site could be condemned and taken for redevelopment by another party. In this scenario, a short-term (i.e., within several months to less than a year) approach will be necessary. If the threat of condemnation is not a major concern, then a more long-term (i.e., one to several years) approach can be selected. Regardless of the decision on a short-term or long-term approach, certain TAW applications are recommended. Thus, recommendations below are separated as follows:

- recommendations appropriate for a short-term approach;
- recommendations appropriate for a long-term approach; and
- recommendations appropriate regardless of NJDEP's final decision or the temporal approach chosen.

5.1 Short-Term Recommendations

If a short-term approach is desired, accepting NJDEP LURP's tentative decision and proceeding with a Waterfront Development permit application and associated GP and TAW are recommended. These permit applications should assume the resource value classifications and resulting transition area widths identified in NJDEP LURP's tentative decision (Section 1.4). Note, this course of action will result in an approximate 25% reduction in developable land area compared to the developable area that was available based on the 1998 LOI.

5.2 Long-Term Recommendations

A long-term approach would involve a challenge of NJDEP LURP's decision-making process (Section 4.1). Challenges to the Landscape Project (Section 4.1.2) or the Natural Heritage Database (Section 4.1.3) do not appear to be productive courses of action. A demonstration of long-term loss of night-heron habitat requirements (Section 4.1.1) could be undertaken, but it would appear to have limited chance of success. Documented presence of night-herons in the vicinity of the Site suggests that habitat requirements are present.

A more feasible challenge would be to request an administrative hearing following NJDEP LURP's final decision on the LOI extension. The hearing request would be based upon the lengthy LOI extension review period, NJDEP's decision to classify some onsite wetlands as exceptional and others as intermediate, and NJDEP's approval of the AKWP project (Section 4.1.4). BBL anticipates that the administrative judge would request that NJDEP LURP and Cytec negotiate a settlement without a trial.

During negotiations, Cytec would be able to request an Individual Permit TAW (Section 4.2.2) or Unique TAW (Section 4.2.7) to allow the planned redevelopment, including filling within the transition areas with appropriate transition area restoration. BBL believes that it can be demonstrated that this redevelopment plan will not

disturb night-heron foraging habitat and will provide a long-term benefit to the wetlands and transition areas onsite. As part of negotiations, Cytec could consider a conservation easement for the revegetated transition areas, which would provide long-term conservation of wading bird habitat and help maintain a "green-belt" along the Rahway River.

Through this challenge process and demonstration of increased value to onsite transition areas, NJDEP LURP may consider modification of transition area width requirements at the Site.

5.3 Inclusive Recommendations

Certain TAW applications would be beneficial regardless of NDJEP LURP's decision on the LOI extension, Cytec's preference for short- or long-term approaches, or the outcome of the challenge recommended in Section 5.2. For example, the Waterfront Development permit application should include an Averaging Plan TAW (Section 4.2.1), GP4 TAW (Section 4.2.5), GP11 TAW (Section 4.2.5), and Access TAW (Section 4.2.6). Each of these TAW (except the Access TAW which requires no application or fee) will require review and approval by NJDEP LURP.

5-2

6. References

Conversation with Dave Jenkins of NJDEP ENSP

Jenkins, Dave. New Jersey Department of Environmental Protection – Endangered and Nongame Species Program. *Personal Communication*, phone conversation with Ryan Szuch of Blasland, Bouck & Lee, Inc. August 23, 2004.

Niles et al. 2004

Niles, L.J., M. Valent, P. Winkler and P. Woerner. 2004. New Jersey's Landscape Project, Version 2.0. New Jersey Department of Environmental Protection, Division of Fish and Wildlife, Endangered and Nongame Species Program. pp. 58.

The 2004 Protocol

NJDEP-LURP, NJ Division of Parks and Forestry-Office of Natural Lands Management, and Division of Fish and Wildlife-ENSP. Protocols for the Establishment of Exceptional Resource Value Wetlands Pursuant to the Freshwater Wetlands Protection Act Based on Documentation of State or Federal Endangered or Threatened Species. February, 2004.

Tables

BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

Table 1. Relevant NJDEP LURP Permit Application Files Requested by BBL

Evaluation of Wetland Resource Value Classification Carteret Impoundments, Carteret, New Jersey Cytec Industries Inc.

Type of Permit	Municipality	Applicant	Submission Date	Approval Date	Reviewed by BBL	Landscape Project (version 2) Onsite
Freshwater Wetlands Individual Permit	Woodbridge	Middlesex County	9/16/2004	NYA	pending	
Letter of Interpretation (verification)	Linden	Rt 1 P W LLC	9/3/2004	NYA	pending	
Letter of Interpretation (verification)	Carteret	Borough of Carteret	7/26/2004	NYA	pending	
Letter of Interpretation (verification)	Linden	Morris Realty/Linden Muni. Airport	7/23/2004	NYA	pending	
GP2 Underground Utility	Woodbridge	NJ Turnpike Authority	7/8/2004	11/29/2004	pending	
GP12 Survey / Investigation	Woodbridge	Woodbridge Township	6/22/2004	12/1/2004	pending	
GP11 Outfalls / Intakes	Carteret	Borough of Carteret	6/22/2004	NYA	pending	
GP11 Outfalls / Intakes	Woodbridge	Middlesex County	6/1/2004	9/10/2004	pending	
Transition Area Waiver (linear development)	Woodbridge	Middlesex County	6/1/2004	9/10/2004	pending	
GP10 Very Minor Roadcrossing	Woodbridge	Middlesex County	6/1/2004	8/27/2004	pending	
Letter of Interpretation (verification)	Linden	ExxonMobil Global Remediation	5/21/2004	NYA	pending	
Letter of Interpretation (verification)	Perth Amboy	NJ Economic Development Authority	5/19/2004	NYA	11/29/2004	no habitats mapped
GP14 Water Monitoring Devices	Linden	ExxonMobil Global Remediation	5/14/2004	6/1/2004	pending	
GP7 Fill Manmade Ditch/Swale	Woodbridge	Woodbridge Township	5/12/2004	11/1/2004	pending	
Letter of Interpretation (verification)	Woodbridge	Woodbridge Sanitary Pottery Corp./ Continental Developers Inc.	4/5/2004	7/26/2004	11/29/2004	forested wetland mapped, but no T&E habitat
Letter of Interpretation (verification)	Woodbridge	Continental Developers Inc	4/5/2004	7/22/2004	11/29/2004	forested wetland mapped, but no T&E habitat
GP10 Very Minor Roadcrossing	Carteret	Borough of Carteret	2/26/2004	NYA	11/29/2004	emergent wetland mapped, with night-heron habitat
Tranistion Area Averaging Plan	Carteret	Borough of Carteret	2/26/2004	5/25/2004	11/29/2004	emergent wetland mapped, with night-heron habitat
GP7 Fill Manmade Ditch/Swale	Carteret	Borough of Carteret	2/26/2004	5/25/2004	11/29/2004	emergent wetland mapped, with night-heron habitat
GP11 Outfalls / Intakes	Carteret	Borough of Carteret	2/26/2004	5/25/2004	11/29/2004	emergent wetland mapped, with night-heron habitat
GP17 Trails / Boardwalks	Carteret	Borough of Carteret	2/26/2004	5/25/2004	11/29/2004	emergent wetland mapped, with night-heron habitat
GP4 Hazardous Site Invest. / Cleanup	Woodbridge	Praxair Inc	2/19/2004	7/30/2004	11/29/2004	LOI performed in 2001, prior to version 2
GP5 Landfill Closure	Woodbridge	Woodbridge Sanitary Pottery Corp./ Continental Developers Inc.	7/15/2003	NYA	11/29/2004	forested wetland mapped, but no T&E habitat
Letter of Interpretation (verification),	Carteret	Borough of Carteret	6/27/2003	11/6/2003	11/29/2004	emergent wetland mapped, with night-heron habitat
GP7 Fill Manmade Ditch/Swale	Carteret	Borough of Carteret	4/23/2002	NYA	11/29/2004	emergent wetland mapped, with night-heron habitat

Notes:

NJDEP = New Jersey Department of Environmental Protection

LURP = Land Use Regulation Program

BBL = Blasland, Bouck & Lee, Inc.

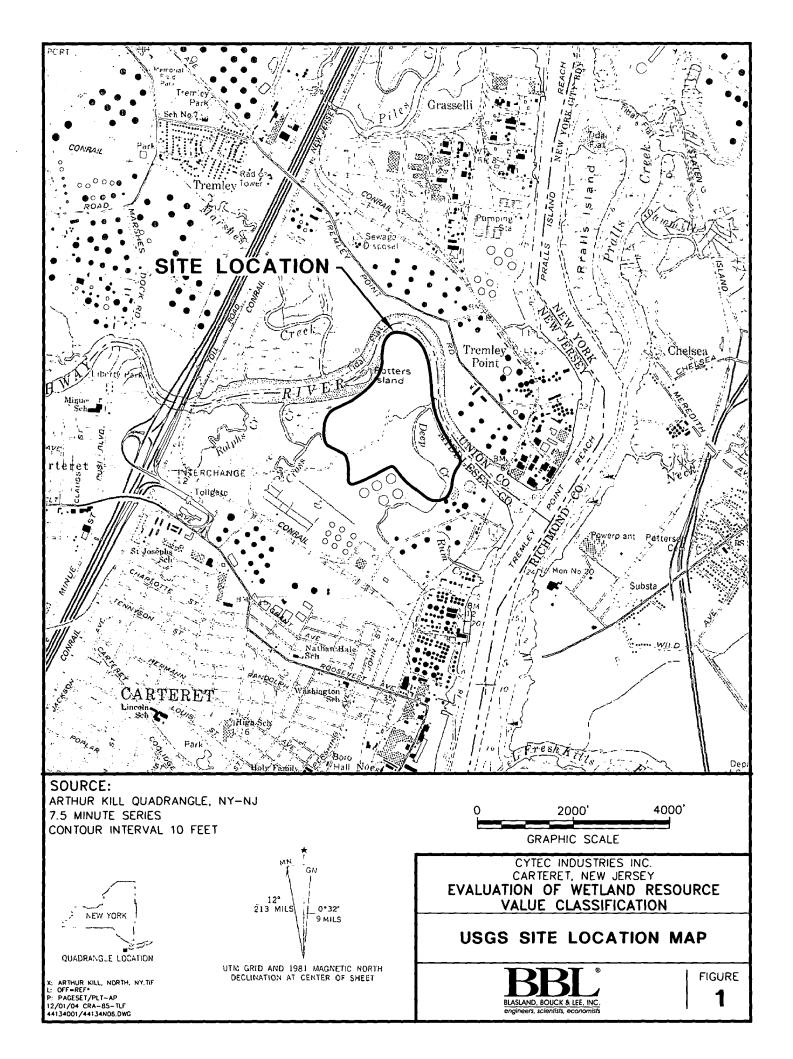
GP = Freshwater Wetlands General Permit

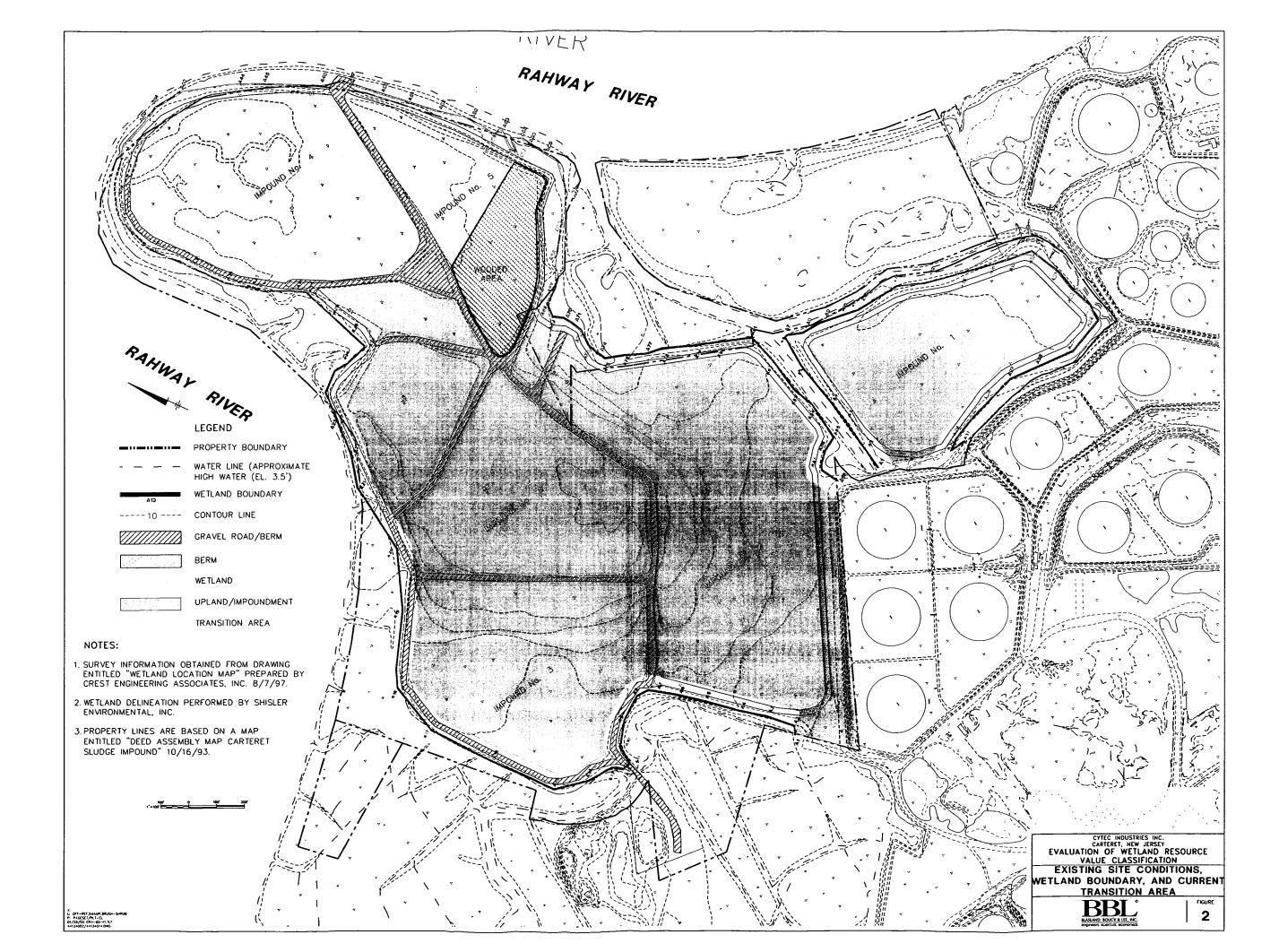
NYA = not yet approved
T&E = threatened and endangered species

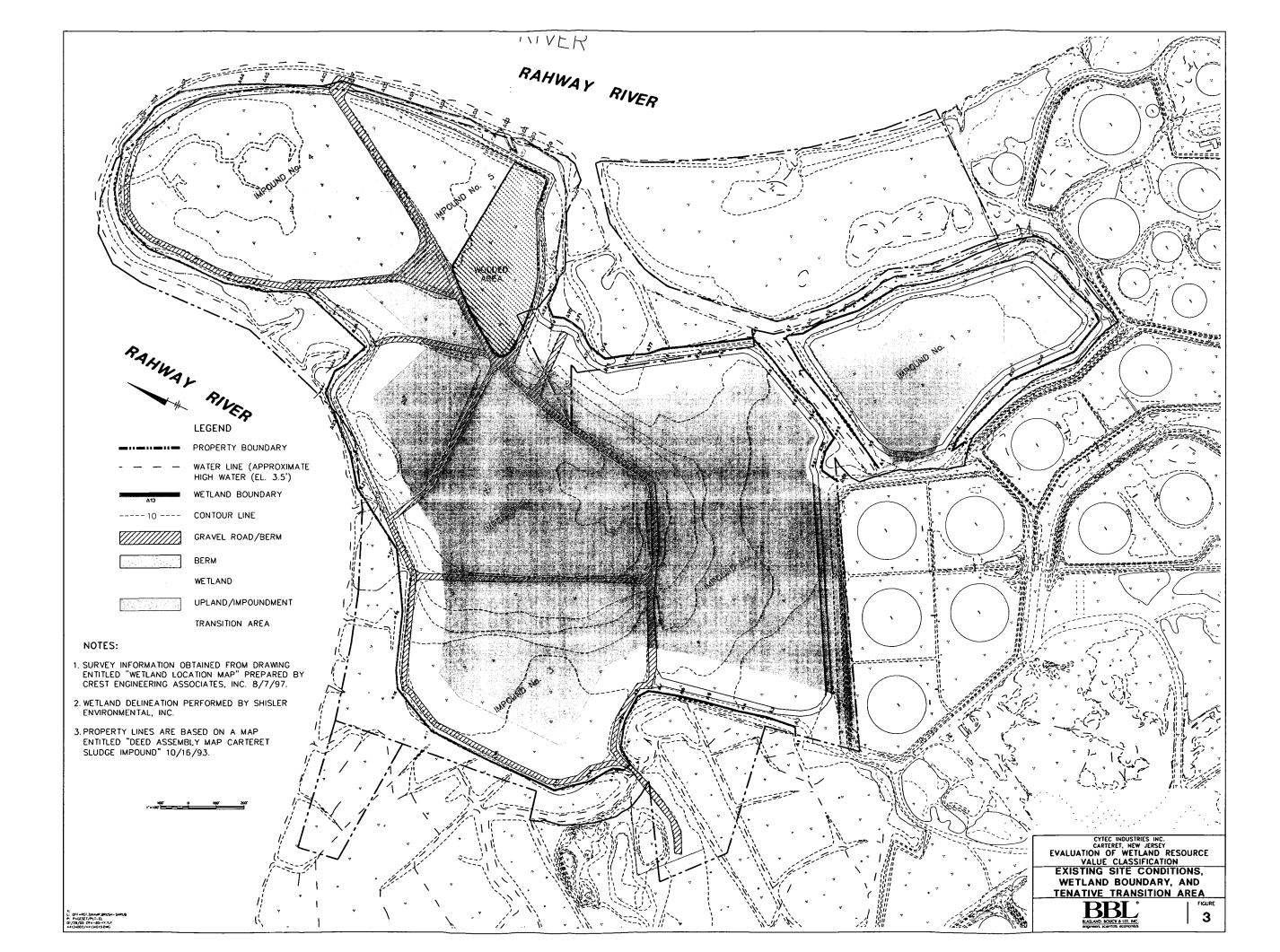
LOI = Letter of Interpretation

Figures

BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists











SOURCE: NJDEP i-MapNJ: Landscape Project Version 2 Emergent Wetlands map overlaid on 2002 aerial photograph.

NOTE:

All areas of Emergent Wetlands shown are identified as black- and yellow-crowned night-heron foraging habitat by the Landscape Project database.

LEGEND:



- Emergent Wetlands

CYTEC INDUSTRIES INC. CARTERET, NEW JERSEY EVALUATION OF WETLAND RESOURCE VALUE CLASSIFICATION

LANDSCAPE PROJECT EMERGENT **WETLANDS MAP AND AERIAL PHOTOGRAPH**



FIGURE

Appendices

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Appendix A

NJDEP LOI Issuance Letter of March 13, 1998



or-eco KK



State of New Jersey

Christine Todd Whitman
Covernor

Department of Environmental Protection

Land Use Regulation Program P.O. Box 439 Trenton, NJ 08625 Fax # (609) 777-3656 Robert C. Shinn, Jr.

MAR 1 3 1998

Andrew N. Johnson, P.E. Blasland, Bouck and Lee, Inc. 8 South River Road Cranbury, NJ 08512

Re: Letter of Interpretation, Line Verification

File No.: 1201-97-0004.1

Applicant: Cytec Industries Inc.

Block: 10; Lots: 8, 9, 10 and 12 through 21

Block: 11.01; Lots: 10 through 14 Carteret Borough, Middlesex County

Dear Mr. Johnson:

This letter is in response to your request for a Letter of Interpretation to verify the jurisdictional boundary of the freshwater wetlands and waters on the referenced property.

In accordance with agreements between the State of New Jersey Department of Environmental Protection, the U.S. Army Corps of Engineers Philadelphia and New York Districts, and the U.S. Environmental Protection Agency, the NJDEP, Land Use Regulation Program is the lead agency for establishing the extent of State and Federally regulated wetlands and waters. The USEPA and/or USACOE retains the right to reevaluate and modify the jurisdictional determination at any time should the information prove to be incomplete or inaccurate.

Based upon the information submitted, and upon a site inspection conducted on January 29, 1998, the Land Use Regulation Program has determined that the wetlands and waters boundary line(s) as shown on the plan map entitled "CYTEC INDUSTRIES INC. CARTARET, NEW JERSEY WETLANDS LOCATION NAP", dated August 7, 1997, unrevised, and prepared by Blasland, Bouck and Lee, Inc., is accurate as shown.

Any activities regulated under the Freshwater Wetlands
Protection Act proposed within the wetlands or transition areas
or the deposition of any fill material into any water area, will
require a permit from this office unless exempted under the
Freshwater Wetlands Protection Act, N.J.S.A. 13:98-1 et seq., and
implementing rules, N.J.A.C. 7:7A. A copy of this plan, together
with the information upon which this boundary determination is
based, has been made part of the Program's public records.

Page 2 Letter of Interpretation

Pursuant to the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A-1 et seq., you are entitled to rely upon this jurisdictional determination for a period of five years from the date of this letter.

The freshwater wetlands and waters boundary line(s), as determined in this letter, must be shown on any future site development plans. The line(s) should be labeled with the above LURP file number and the following note:

"Freshwater Wetlands/Waters Boundary Line as verified by NJDEP."

In addition, the Department has determined that the wetlands on the subject property are of intermediate resource value and the standard transition area or buffer required adjacent to these wetlands is 50 feet. The areas within impoundments 1-6 have been determined not to be waters of the United States, and therefore are not regulated wetland features. This classification may affect the requirements for an Individual Wetlands Permit (see N.J.A.C. 7:7A-3), the types of Statewide General Permits available for the wetlands portion of this property (see N.J.A.C. 7:7A-9) and the modification available through a transition area waiver (see N.J.A.C. 7:7A-7). Please refer to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.) and implementing rules for additional information.

It should be noted that this determination of wetlands classification is based on the best information presently available to the Department. The classification is subject to change if this information is no longer accurate, or as additional information is made available to the Department, including, but not limited to, information supplied by the applicant.

Be advised, regulated activities involving the reconstruction of berms surrounding impoundment No. 1 was observed during the site inspection of January 29, 1998 (within buffers and wetland areas) and possibly within the waterfront development jurisdiction.

This letter in no way legalizes any fill which may have been placed, or other regulated activities which may have occurred onsite. Also this determination does not affect your responsibility to obtain any local, State, or Federal permits which may be required.

Page 3 Letter of Interpretation

In accordance with N.J.A.C. 7:7A-12.7, any person who is aggrieved by this decision may request a hearing within 30 days of the decision date by writing to: New Jersey Department of Environmental Protection, Office of Legal Affairs, Attention: Adjudicatory Hearing Requests, CN 402, Trenton, NJ 08625-0402. This request must include a completed copy of the Administrative Hearing Request Checklist.

Please contact David Q. Risilia of our staff at (609) 633-6754 should you have any questions regarding this letter. Be sure to indicate the Program's file number in all communication.

Sincerely,

Christopher Jones, Section Chief Bureau of Inland Regulation

dd c:

Carteret Borough Clerk
Carteret Borough Construction Official

Disk #32, File: A: 12017021. DOC

Appendix B

NJDEP Natural Heritage Database Report for Site





James E. McGreevey
Governor

Department of Environmental Protection

Division of Parks and Forestry
Office of Natural Lands Management
Natural Heritage Program
P.O. Box 404
Trenton, NJ 08625-0404
Tel. #609-984-1339
Fax. #609-984-1427

July 12, 2004

Ryan P. Szuch Blasland, Bouck & Lee, Inc. 8 South River Road Cranbury, NJ 08512

Re:

Carteret (Cytec Industries, Inc.)

Dear Mr. Szuch:

Thank you for your data request regarding rare species information for the above referenced project site in Carteret Borough, Middlesex County.

Searches of the Natural Heritage Database and the Landscape Project (Version 2) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Natural Heritage Database and the Landscape Project habitat mapping for occurrences of any rare wildlife species or wildlife habitat on the referenced site. Please see Table 1 for species list and conservation status.

Table 1 (on referenced site).

Common Name	Scientific Name	Federal Status	State Status	Grank	Srank
black-crowned night-heron foraging habitat	Nycticorax nycticorax		T/S	G5	S3B,S4N
colonial waterbird foraging habitat					
yellow-crowned night-heron foraging habitat	Nyctanassa violacea		T/T	G5	S2B

Neither the Natural Heritage Database nor the Landscape Project has records for any additional rare wildlife species or wildlife habitat within one mile of the referenced site.

We have also checked the Natural Heritage Database for occurrences of rare plant species or natural communities. The Natural Heritage Data Base does not have any records for rare plants or natural communities on or within one mile of the site

Attached is a list of rare species and natural communities that have been documented from Middlesex County. If suitable habitat is present at the project site, these species have potential to be present.

Status and rank codes used in the tables and lists are defined in the attached EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS.

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive I-Map-NJ website at the following URL, http://www.state.nj.us/dep/gis/imapnj/imapnj.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program.

PLEASE SEE THE ATTACHED 'CAUTIONS AND RESTRICTIONS ON NHP DATA'.

Bradley M. Campbell
Commissioner

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Herbert a. Lord

Herbert A. Lord Data Request Specialist

cc: Rol

Robert J. Cartica Lawrence Niles NHP File No. 04-4007452

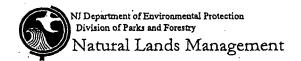
CAUTIONS AND RESTRICTIONS ON NATURAL HERITAGE DATA

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the database. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEP Land Use Regulation Program, P.O. Box 401, Trenton, NJ 08625-0401.

The Landscape Project was developed by the Division of Fish & Wildlife, Endangered and Nongame Species Program to map critical habitat for rare animal species. Some of the rare species data in the Landscape Project is in the Natural Heritage Database, while other records were obtained from other sources. Natural Heritage Database response letters will list all species (if any) found during a search of the Landscape Project. However, any reports that are included with the response letter will only reference specific records if they are in the Natural Heritage Database. This office cannot answer any inquiries about the Landscape Project. All questions should be directed to the DEP Division of Fish and Wildlife, Endangered and Nongame Species Program, P.O. Box 400, Trenton, NJ 08625-0400.

This cautions and restrictions notice must be included whenever information provided by the Natural Heritage Database is published.



EXPLANATIONS OF CODES USED IN NATURAL HERITAGE REPORTS

FEDERAL STATUS CODES

ne following U.S. Fish and Wildlife Service categories and their definitions of endangered and threatened plants and animals have been modified from the U.S. Fish and Wildlife Service (F.R. Vol. 50 No. 188; Vol. 61, No. 40; F.R. 50 CFR Part 17). Federal Status codes reported for species follow the most recent ting.

- LE Taxa formally listed as endangered.
- LT Taxa formally listed as threatened.
- PE Taxa already proposed to be formally listed as endangered.
- PT Taxa already proposed to be formally listed as threatened.
- C Taxa for which the Service currently has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species.
- S/A Similarity of appearance species.

STATE STATUS CODES

INDICATE INDICATE IN THE STATE OF THE STATE

- D Declining species-a species which has exhibited a continued decline in population numbers over the years.
- E Endangered species-an endangered species is one whose prospects for survival within the state are in immediate danger due to one or many factors a loss of habitat, over exploitation, predation, competition, disease. An endangered species requires immediate assistance or extinction will probably follow.
- EX Extirpated species -a species that formerly occurred in New Jersey, but is not now known to exist within the state.
- Introduced species-a species not native to New Jersey that could not have established itself here without the assistance of man.
- INC Increasing species—a species whose population has exhibited a significant increase, beyond the normal range of its life cycle, over a long term period.
- Threatened species-a species that may become endangered if conditions surrounding the species begin to or continue to deteriorate.
- P Peripheral species-a species whose occurrence in New Jersey is at the extreme edge of its present natural range.
- S Stable species-a species whose population is not undergoing any long-term increase/decrease within its natural cycle.
- U Undetermined species-a species about which there is not enough information available to determine the status.

- is for animals separated by a slash(/) indicate a duel status. First status refers to the state breeding population, and the second status refers to the atory or winter population.

nga sin sanday a Sandan it taxa listed as endangered are from New Jersey's official Endangered Plant Species List N.J.S.A. 1318-15.151 et seq.

E Native New Jersey plant species whose survival in the State or nation is in jeopardy.

JIONAL STATUS CODES FOR PLANTS

LP Indicates taxa listed by the Pinelands Commission as endangered or threatened within their legal jurisdiction. Not all species currently tracked by the Pinelands Commission are tracked by the Natural Heritage Program. A complete list of endangered and threatened Pineland species is included in the New Jersey Pinelands Comprehensive Management Plan.

LANATION OF GLOBAL AND STATE ELEMENT RANKS

Nature Conservancy has developed a ranking system for use in identifying elements (rare species and natural communities) of natural diversity most langered with extinction. Each element is ranked according to its global, national, and state (or subnational in other countries) rarity. These ranks are used to prioritize conservation work so that the most endangered elements receive attention first. Definitions for element ranks are after The Nature Conservancy 11082: Chapter 4, 4.1-1 through 4.4.1.3-3).

GLOBAL ELEMENT RANKS

- Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.
- G2 Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.
- Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout it's range; with the number of occurrences in the range of 21 to 100.
- G4 Apparently secure globally; although it may be quite rare in parts of its range, especially at the periphery.
- G5 Demonstrably secure globally; although it may be quite rare in parts of its range, especially at the periphery.
- GH Of historical occurrence throughout its range i.e., formerly part of the established biota, with the expectation that it may be rediscovered.
- GU Possibly in peril range-wide but status uncertain; more information needed.
- GX Believed to be extinct throughout range (e.g., passenger pigeon) with virtually no likelihood that it will be rediscovered.
- G? Species has not yet been ranked.

TE ELEMENT RANKS

Critically imperiled in New Jersey because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres). Elements so ranked are often restricted to very specialized conditions or habitats and/or restricted to an extremely small geographical area of the state. Also included are elements which were formerly more abundant, but because of habitat destruction or some other critical factor of its biology, they have been demonstrably reduced in abundance. In essence, these are elements for which, even with intensive searching, sizable additional occurrences are unlikely to be discovered.

- Imperiled in New Jersey because of rarity (6 to 20 occurrences). Historically many of these elements may have been more frequent but are now known from very few extant occurrences, primarily because of habitat destruction. Diligent searching may yield additional occurrences.
- Rare in state with 21 to 100 occurrences (plant species in this category have only 21 to 50 occurrences). Includes elements which are widely distributed in the state but with small populations/acreage or elements with restricted distribution, but locally abundant. Not yet imperiled in state but may soon be if current trends continue. Searching often yields additional occurrences.
- S4 Apparently secure in state, with many occurrences.
- 55 Demonstrably secure in state and essentially ineradicable under present conditions.
- Accidental in state, including species (usually birds or butterflies) recorded once or twice or only at very great intervals, hundreds or even thousands of miles outside their usual range; a few of these species may even have bred on the one or two occasions they were recorded; examples include European strays or western birds on the East Coast and vice-versa.
- SE Elements that are clearly exotic in New Jersey including those taxa not native to North America (introduced taxa) or taxa deliberately or accidentally introduced into the State from other parts of North America (adventive taxa). Taxa ranked SE are not a conservation priority (viable introduced occurrences of G1 or G2 elements may be exceptions).
- Elements of historical occurrence in New Jersey. Despite some searching of historical occurrences and/or potential habitat, no extant occurrences are known. Since not all of the historical occurrences have been field surveyed, and unsearched potential habitat remains, historically ranked taxa are considered possibly extant, and remain a conservation priority for continued field work.
- SP Element has potential to occur in New Jersey, but no occurrences have been reported.
- SR Elements reported from New Jersey, but without persuasive documentation which would provide a basis for either accepting or rejecting the report. In some instances documentation may exist, but as of yet, its source or location has not been determined.
- SRF Elements erroneously reported from New Jersey, but this error persists in the literature.
- SU Elements believed to be in peril but the degree of rarity uncertain. Also included are rare taxa of uncertain taxonomical standing. More information is needed to resolve rank.
- SX Elements that have been determined or are presumed to be extirpated from New Jersey. All historical occurrences have been searched and a reasonable search of potential habitat has been completed. Extirpated taxa are not a current conservation priority.
- SXC Elements presumed extirpated from New Jersey, but native populations collected from the wild exist in cultivation.
- Not of practical conservation concern in New Jersey, because there are no definable occurrences, although the taxon is native and appears regularly in the state. An SZ rank will generally be used for long distance migrants whose occurrences during their migrations are too irregular (in terms of repeated visitation to the same locations), transitory, and dispersed to be reliably identified, mapped and protected. In other words, the migrant regularly passes through the state, but enduring, mappable element occurrences cannot be defined.

Typically, the SZ rank applies to a non-breeding population (N) in the state - for example, birds on migration. An SZ rank may in a few instances also apply to a breeding population (B), for example certain lepidoptera which regularly die out every year with no significant return migration.

Although the SZ rank typically applies to migrants, it should not be used indiscriminately. Just because a species is on migration does not mean it receives an SZ rank. SZ will only apply when the migrants occur in an irregular, transitory and dispersed manner.

- B Refers to the breeding population of the element in the state.
- N Refers to the non-breeding population of the element in the state.
- Element ranks containing a "T" indicate that the infraspecific taxon is being ranked differently than the full species. For example *Stachys* palustris var. homotricha is ranked "GST? SH" meaning the full species is globally secure but the global rarity of the var. homotricha has not been determined; in New Jersey the variety is ranked historic.
- Elements containing a "Q" in the global portion of its rank indicates that the taxon is of questionable, or uncertain taxonomical standing,
 e.g., some authors regard it as a full species, while others treat it at the subspecific level.
- .1 Elements documented from a single location.
- te: To express uncertainty, the most likely rank is assigned and a question mark added (e.g., G2?). A range is indicated by combining two ranks (e.g., G1G2, S1S3).

NTIFICATION CODES

These codes refer to whether the identification of the species or community has been checked by a reliable individual and is indicative of significant habitat.

Y Identification has been verified and is indicative of significant habitat.

BLANK Identification has not been verified but there is no reason to believe it is not indicative of significant habitat.

? Either it has not been determined if the record is indicative of significant habitat or the identification of the species or community may be confusing or disputed.

Revised September 1998

MIDDLESEX COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN THE NEW JERSEY NATURAL HERITAGE DATABASE

	NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
*** Vertebrates							
	AMMODRAMUS HENSLOWII	HENSLOW'S SPARROW		E		G4	SIB
	AMMODRAMUS SAVANNARUM	GRASSHOPPER SPARROW		T/S		G5	S2B
	ASIO OTUS	LONG-EARED OWL		T/T		G5	S2B, S2N
	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER		E		G5	SIB
	CIRCUS CYANEUS	NORTHERN HARRIER		E/U		G5	S1B, S3N
	CLEMMYS INSCULPTA	WOOD TURTLE		T		G4	S3
	CLEMMYS MUHLENBERGII	BOG TURTLE	LT	E		G3	S2
	DOLICHONYX ORYZIVORUS	BOBOLINK		T/T		G5	S2B
	FALCO PEREGRINUS	PEREGRINE FALCON		E		G4	S1B, S?N
	HYLA ANDERSONII	PINE BARRENS TREEFROG		E		G4	S3
	IXOBRYCHUS EXILIS	LEAST BITTERN		D/S		G5	S3B
	LANIUS LUDOVICIANUS MIGRANS	MIGRANT LOGGERHEAD SHRIKE		E		G4T3Q	SIB, SIN
	NYCTANASSA VIOLACEA	YELLOW-CROWNED NIGHT-HERON		T/T		G5	S2B
	PASSERCULUS SANDWICHENSIS	SAVANNAH SPARROW		T/T		G5	S2B, S4N
	PODILYMBUS PODICEPS	PIED-BILLED GREBE		E/S		G5	S1B,S3N
*** Invertebrates	:						
	AESHNA CLEPSYDRA	MOTTLED DARNER				G4	S2S3
	ALAȘMIDONTA UNDULATA	TRIANGLE FLOATER		T		G4	S 3
	ANAX LONGIPES	COMET DARNER				G5	S2S3
	BOLORIA SELENE MYRINA	A SILVER-BORDERED FRITILLARY		T		G5T5	S2
	CALLOPHRYS IRUS	FROSTED ELFIN		T		G3	S2S3
	CALLOPHRYS POLIOS	HOARY ELFIN				G5	S 3
	CELITHEMIS MARTHA	MARTHA'S PENNANT				G4	S3S4
	enaļlagma basidens	DOUBLE-STRIPED BLUET				G5	S3
	ENALLAGMA PICTUM	SCARLET BLUET				G3	S 3
	ERYNNIS PERSIUS PERSIUS	A PERSIUS DUSKY WING				G5T2T3	SH
	HESPERIA LEONARDUS	LEONARD'S SKIPPER				G4	S2
	LASMIGONA SUBVIRIDIS	GREEN FLOATER		E		G3	S1

MIDULESEX COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN THE NEW JERSEY NATURAL HERITAGE DATABASE

	NAME	COMMON NAME	FEDERAL	STATE	REGIONAL	GRANK	SRANK
			STATUS	STATUS	STATUS		
	LESTES EURINUS	AMBER-WINGED SPREADWING				G4	S2
	METARRANTHIS PILOSARIA	COASTAL BOG METARRANTHIS				G3G4	S3S4
	PAPAIPEMA NECOPINA	SUNFLOWER BORER MOTH				G4?	SH
	PONTIA PROTODICE	CHECKERED WHITE		т		G4	Sl
	SATYRODES EURYDICE	EYED BROWN				G4	Sl
	SPEYERIA APHRODITE	APHRODITE FRITILLARY				G5	S2S3
	SPEYERIA IDALIA	REGAL FRITILLARY				G3	SH
	SYMPETRUM AMBIGUUM	BLUE-FACED MEADOWHAWK				G5	S2
*** Vascular plants							
	AGALINIS AURICULATA	EAR-LEAF FALSE FOXGLOVE				G3	SX
	AGASTACHE NEPETOIDES	YELLOW GIANT-HYSSOP				G5	S2
	ARTEMISIA CAMPESTRIS SSP	BEACH WORMWOOD				GSTS	S2
	CAUDATA						
	ASCLEPIAS RUBRA	RED MILKWEED			LP	G4G5	52
	ASCLEPIAS VERTICILLATA	WHORLED MILKWEED				G5	S2
	ASTER RADULA	LOW ROUGH ASTER		E		G5	S1
	BIDENS BIDENTOIDES	ESTUARY BURR-MARIGOLD				G3	S2
	BIDENS EATONII	EATON'S BEGGAR-TICKS		E		G2	S1.1
	CALAMOVILFA BREVIPILIS	PINE BARREN REEDGRASS			LP	G4	S4
	CAREX BARRATTII	BARRATT'S SEDGE			LP	G4	S4
	CAREX LOUISIANICA	LOUISIANA SEDGE		E		G5	Sl
	CAREX POLYMORPHA	VARIABLE SEDGE		E		G3	S1
	CAREX UTRICULATA	BOTTLE-SHAPED SEDGE				G5	S2
	CAREX WILLDENOWII VAR	WILLDENOW'S SEDGE				G5T5	£5
	WILLDENOWII						
	CRATAEGUS CALPODENDRON	PEAR HAWTHORN		E		G5	S1
	CYPERUS LANCASTRIENSIS	LANCASTER FLAT SEDGE		E		G5	Sl
	DRABA REPTANS	CAROLINA WHITLOW-GRASS		E		G5	SH
	ELATINE AMERICANA	AMERICAN WATERWORT				G4	S2

MIDDLESEX COUNTY

RARE SPECIES AND NATURAL COMMUNITIES FRESENTLY RECORDED IN . THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL	STATE	REGIONAL	GRANK	SRANK
i		STATIS	STATUS	STATUS		
:						
EUPATORIUM ALTISSIMUM	TALL BONESET				G5	\$2
GENTIANA SAPONARIA VAR	SOAPWORT GENTIAN				G5T?	\$3
SAPONARIA						
HELONIAS BULLATA	SWAMP-PINK	LT	Е	LP	G3	83
HOTTONIA INFLATA	FEATHERFOIL		E		G4	Sl
HYDROCOTYLE RANUNCULOIDES .	FLOATING MARSH-PENNYWORT		E		G5	S1
ISOETES RIPARIA VAR RIPARIA	SHORE QUILLWORT				G5?T5?Q	S3
LATHYRUS OCHROLEUCUS	CREAM VETCHLING		E		G4G5	SH
LIATRIS SCARIOSA VAR	NORTHERN BLAZING-STAR		E		G5?T3	SH
NOVAE-ANGLIAE						
LISTERA AUSTRALIS	SOUTHERN TWAYBLADE			LP	G4	S2
LYGODIUM PALMATUM	CLIMBING FERN			LP	G4	82
LYSTMACHIA HYBRIDA	LOWLAND LOOSESTRIFE				G5	83
MELANTHIUM VIRGINICUM	VIRGINIA BUNCHFLOWER		E		G5	S1
MICRANTHEMUM MICRANTHEMOIDES	NUTTALL'S MUDWORT		E		GН	SH
MIMULUS ALATUS	WINGED MONKEY-FLOWER				G5	S3
MYRIOPHYLLUM TENELLUM	SLENDER WATER-MILFOIL		E		G5	S1
MYRIOPHYLLUM VERTICILLATUM	WHORLED WATER-MILFOIL		Е		G5	SH
PHORADENDRON LEUCARPUM	AMERICAN MISTLETOE	•		LP	G5	S 2
PLANTAGO MARITIMA VAR	SEASIDE PLANTAIN				G5T5	S2
JUNÇOIDES						
PLATANTHERA FLAVA VAR FLAVA	SOUTHERN REIN ORCHID		E		G4T4?Q	Sì
PLATANTHERA PERAMOENA	PURPLE FRINGELESS ORCHID		E		G5	Sl
POLYGALA POLYGAMA	RACEMED MILKWORT				C5	S2
POLYGONUM GLAUCUM	SEA-BEACH KNOTWEED		E		G3	S1
PUCCINELLIA FASCICULATA	SALTMARSH ALKALI GRASS				G3G5	S2
PYCNANTHEMUM TORREI	TORREY'S MOUNTAIN-MINT		E		G2 .	Sl
RANUNCULUS PUSILLUS VAR	LOW SPEARWORT				G5T4?	S 2
PUSILLUS						
RHODODENDRON CANADENSE	RHODORA		E		G5	Sl

MIDDLESEX COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
RIBES CYNOSBATI	PRICKLY GOOSEBERRY				G5	SH
SAGITTARIA AUSTRALIS	SOUTHERN APROWHEAD		E		G5	Sl
SAGITTARIA CALYCINA VAR	TIDAL ARROWHEAD				G5T4	S 3
SPONGIOSA						
SCIRPUS MARITIMUS	SALTMARSH BULRUSH		E		G5	SK
SCUTELLARIA LEONARDII	SMALL SKULLCAP		E		G4T4	S1
SOLIDAGO ELLIOTTII	ELLIOTT'S GOLDENROD				G5	S 3
SOLIDAGO RIGIDA	PRAIRIE GOLDENROD		Ε		GST5	Sl
STACHYS HYSSOPIFOLIA	HYSSOP HEDGE-NETTLE				G5	S2
TRIGLOCHIN MARITIMA	SEASIDE ARROW-GRASS		E		G5	S1
UTRICULARIA GIBBA	HUMPED BLADDERWORT			LP	G5	S3
UTRICULARIA PURPUREA	PURPLE BLADDERWORT			LP	G5	S 3
VERBENA SIMPLEX	NARROW-LEAF VERVAIN		E		G5	S1 '
VICIA AMERICANA VAR AMERICANA	AMERICAN PURPLE VETCH				G5T5	S2
VIOLA BRITTONIANA VAR	BRITTON'S COAST VIOLET				G4G5T4T5	S3
BRITTONIANA	•					
ZIGADENUS LEIMANTHOIDES	DEATH-CAMUS		E		G4Q	S1

94 Records Processed

Appendix C

NJDEP Permit Applications from Search of DEP Bulletin



	T		T	Ţ	Submission	Most Recent		Approval
LURP File ID	Permit ID	Type of Permit	Municipality	Applicant	Date	Action	Date	Date
1200-02-0009.1	FWW 040001	Not specified	Perth Amboy	NJDOT Bureau of Facilities Planning & Eng.	10/18/2004	Conduct Administrative Review	11/4/2004	NYA
1216-04-0002.1	FWW 040001	FWGP7 fill manmade ditch/swale HW	Woodbridge	Country Creek LLC	10/6/2004	Conduct Administrative Review	10/25/2004	NYA
1225-02-0019.2	FWW 040001	FWLI2 Footprint of Disturbance LOI	Woodbridge	Federal Business Centers	9/28/2004	Conduct Administrative Review	10/4/2004	NYA
	FWW 040004	FWGP11 outfalls/intakes	Woodbridge	OENJ CHEROKEE WOODBRIDGE LLC	9/22/2004	Conduct Administrative Review	9/27/2004	NYA
	FWW 040005	FWTW1 transition area averaging plan	Woodbridge	OENJ CHEROKEE WOODBRIDGE LLC	9/22/2004	Conduct Administrative Review	9/27/2004	NYA
1225-04-0008.2	FWW 040006	FWTW4L transition SAW linear development		OENJ CHEROKEE WOODBRIDGE LLC	9/22/2004	Conduct Administrative Review	9/27/2004	NYA
1	FWW 040001	FWLI4 Verification over an acre	Woodbridge	Gronbeck Family LLC	9/20/2004	Conduct Administrative Review	10/12/2004	NYA
	FWW 040001	FWIPOW individual permit open waters	Woodbridge	Middlesex County	9/16/2004	Conduct Administrative Review	9/27/2004	NYA
2009-04-0005.1	FWW 040001	FWLI4 Verification over an acre	Linden	Rt 1 P W LLC	9/3/2004	Conduct Administrative Review	9/27/2004	NYA
	FWW 040001	FWGP6 filling of NSWC	Woodbridge	OENJ CHEROKEE WOODBRIDGE LLC	8/18/2004	Receive application	8/18/2004	NYA
	FWW 040001	FWGP6 filling of NSWC	Woodbridge	OENJ CHEROKEE WOODBRIDGE LLC	8/18/2004	Receive fee	8/18/2004	NYA
	FWW 040001	FWLI4 Verification over an acre	Carteret	Borough of Carteret	7/26/2004	Conduct Administrative Review	8/4/2004	NYA
	FWW 040002	FWLI4 Verification over an acre	Linden	Morris Realty/Linden Municipal Airport	7/23/2004	Conduct Administrative Review	7/26/2004	NYA
2009-04-0004.1	FWW 040001	FWTW1 transition area averaging plan	Linden	Morris Realty/Linden Municipal Airport	7/23/2004	Conduct Administrative Review	7/28/2004	NYA
	FWW 040003	FWGP27 Redevelop prev. disturb.	Linden	Morris Realty/Linden Municipal Airport	7/23/2004	Conduct Project Manger Review	9/20/2004	NYA
	FWW 040001	FWGP2 underground utility	Woodbridge	NJ Turnpike Authority	7/8/2004	Send 2nd Approval (orig aprv 10/21)	11/29/2004	11/29/2004
1225-02-0019.3	FWW 040001	FWGP12 survey/investigation	Woodbridge	Woodbridge Township	6/22/2004	Send Approval	12/1/2004	12/1/2004
1201-02-0008.2	FWW 040001	FWGP11 outfalls/intakes	Carteret	Borough of Carteret	6/22/2004	Send letter	7/20/2004	NYA
	FWW 040001	FWIPW individual permit WET	Woodbridge	TRANSCONTINENTAL GAS PIPE LINE CORP	6/8/2004	Conduct Administrative Review	6/24/2004	NYA
1225-04-0012.1	FWW 040002		Woodbridge	Middlesex County	6/1/2004	Send Approval	9/10/2004	9/10/2004
1225-04-0012.1	FWW 040003		Woodbridge	Middlesex County	6/1/2004	Send Approval	9/10/2004	9/10/2004
1225-04-0012.1	FWW 040001	FWGP10A very minor roadcrossing	Woodbridge	Middlesex County	6/1/2004	Send Approval	9/10/2004	8/27/2004
	FWW 040001	FWLI4 Verification over an acre	Linden	ExxonMobil Global Remediation	5/21/2004	Conduct Administrative Review	5/24/2004	NYA
1225-04-0008.2	FWW 040002	FWGP10B minor roadcrossing	Woodbridge	OENJ CHEROKEE WOODBRIDGE LLC	5/20/2004	Conduct Administrative Review	5/20/2004	NYA
1225-04-0008.2	FWW 040003	FWGP27 Redevelop prev. disturb.	Woodbridge	OENJ CHEROKEE WOODBRIDGE LLC	5/20/2004	Conduct Administrative Review	5/20/2004	NYA
	FWW 040002	FWGP10B minor roadcrossing	Woodbridge	OENJ CHEROKEE WOODBRIDGE LLC	5/20/2004	Receive fee	5/20/2004	NYA
	FWW 040003	FWGP27 redev prev disturb	Woodbridge	OENJ CHEROKEE WOODBRIDGE LLC	5/20/2004	Receive fee	5/20/2004	NYA
	FWW 040001	FWLI4 Verification over an acre	Perth Amboy	NJ Economic Development Authority	5/19/2004	Conduct Administrative Review	6/29/2004	NYA
2009-04-0001.1	FWW 040002	FWGP14 water monitoring	Linden	ExxonMobil Global Remediation	5/14/2004	Send Approval	6/16/2004	6/1/2004
1225-04-0009.1	FWW 040001	<u> </u>	Woodbridge	Woodbridge Township	5/12/2004	Not Available	NA	11/1/2004
1220 04 0000.1	7 1111 040001	T VV CT 7 IIII Maximade diteis/300die 1100	VVOCabriage	Woodbridge Sanitary Pottery Corp./	0/12/2004	TVO(/ Valiable		1 17 17 2004
1225-03-0014.1	FWW 040001	FWLI4 Verification over an acre	Woodbridge	Continental Developers Inc.	4/5/2004	Send Approval	8/5/2004	7/26/2004
1225-03-0014.1	FWW 040001	FWLI4 Verification over an acre	Woodbridge	Continental Developers Inc	4/5/2004	Send approval	8/5/2004	7/22/2004
	FWW 040003	FwGP10 very minor roadcrossing	Carteret	Borough of Carteret	2/26/2004	Withdraw application	5/20/2004	NYA
1201-02-0003.1	FWW 040001	FWTW1 transition area averaging plan	Carteret	Borough of Carteret	2/26/2004	Send letter	6/4/2004	5/25/2004
		FWGP7 fill manmade ditch/swale HW	Carteret	Borough of Carteret	2/26/2004	Send letter	6/7/2004	5/25/2004
1201-02-0003.1	FWW 040004		Carteret	Borough of Carteret	2/26/2004	Send letter	6/7/2004	5/25/2004
1201-02-0003.1	FWW 040005	FWGP17 trails/boardwalks	Carteret	Borough of Carteret	2/26/2004	Send letter	6/7/2004	5/25/2004
1225-04-0003.1	FWW 040001	FWGP4 Hazardous site invest/cleanup	Woodbridge	Praxair Inc	2/19/2004	<u> </u>	8/9/2004	7/30/2004
1201-03-0002.1	FWW 040001	FWGP10B minor roadcrossing	Carteret	NJ Turnpike Authority	1/30/2004	Send Approval Send Approval	10/19/2004	10/12/2004
1201-03-0002.1	FWW 040001	FWGP10B minor roadcrossing FWGP11 outfalls/intakes	Carteret	NJ Turnpike Authority	1/30/2004	Send Approval	10/19/2004	10/12/2004
1201-03-0002.1	FWW 040002		Carteret	NJ Turnpike Authority	1/30/2004	Send Approval	10/19/2004	10/12/2004
1225-04-0001.1	FWW 040003		Woodbridge	Buckeye Pipeline Co.	1/8/2004	Send Approval	2/24/2004	2/13/2004
1225-03-0025.1	FWW 030001		Woodbridge		12/23/2003	Send letter		4/23/2004
			Woodbridge	Bhojani Development Group	12/23/2003	Send letter	5/5/2004	4/23/2004
1201-03-0009.1		FWL12 Footprint of Disturbance LOI	Carteret	Bhojani Development Group Wiltel Communications LLC	12/16/2003	Send letter	5/5/2004	NYA
		FWL12 Footprint of Disturbance LOI		Matrix Outdoor Media	12/12/2003		6/25/2004	9/24/2004
			Woodbridge			Send Approval	9/29/2004	9/24/2004
		FWLI2 Footprint of Disturbance LOI	Woodbridge	Matrix Outdoor Media	12/12/2003	Send Approval	9/29/2004	
		FWGP6 filling of NSWC	Carteret	Reichhold Capping Activities	12/12/2003	Send Approval	1/28/2004	1/5/2004
		FWGP7 fill manmade ditch/swaleHW	Carteret	Reichhold Capping Activities	12/12/2003	Send Approval	1/28/2004	1/5/2004
		FWGP4 Hazardous site invest/cleanup	Linden	ISP Environmental Services Inc	11/21/2003	Send Withdrawal	8/9/2004	NYA
		FWGP27 Redevelop prev. disturb.	Linden	ISP Environmental Services Inc	11/21/2003	Send Approval	8/9/2004	8/5/2004
1225-03-0011.1	FWW 030003	FWTW1 transition area averaging plan	Woodbridge	Ivy Development Corp	11/19/2003	Conduct Administrative Review	12/16/2003	NYA

					Submission	Most Recent		Approval
LURP File ID	Permit ID	Type of Permit	Municipality	Applicant	Date	Action	Date	Date
1225-03-0011.1	FWW 030004	FWGP10A very minor roadcrossing	Woodbridge	Ivy Development Corp	11/19/2003	Send approval	3/19/2004	NYA
0000-03-0034.1	FWW 030001	FWGP12 survey/investigation	Carteret	NJ Turnpike Authority	10/21/2003	Schedule Targeted Inspection	1/26/2004	1/23/2004
2009-03-0003.1	FWW 030001	FWGP21 above ground utility	Linden	ConocoPhillips	10/9/2003	Send Approval	2/19/2004	2/9/2004
1225-03-0015.2	FWW 030001	FWLI4 Verification over an acre	Woodbridge	Pride Solvents & Chemical Co. of NJ Inc.	7/16/2003	Schedule Targeted Inspection	12/3/2003	11/25/2003
1225-03-0015.1	FWW 030002	FWGP6 filling of NSWC	Woodbridge	Pride Solvents & Chemical Co. of NJ Inc.	7/16/2003	Send Approval	11/26/2003	11/25/2003
				Woodbridge Sanitary Pottery Corp./				
1225-03-0014.1	FWW 030001	FWGP5 landfill closure	Woodbridge	Continental Developers Inc.	7/15/2003	Withdraw application	10/21/2004	NYA
1201-01-1001.5	FWW 030002	FWLI4 Verification over an acre	Carteret	Kinder Morgan Liquid Terminals	7/11/2003	Conduct Project Manger Review	9/30/2003	NYA
1201-02-0003.1	FWW 030001	FWLI4 Verification over an acre	Carteret	Borough of Carteret	6/27/2003	Send Approval	11/12/2003	11/6/2003
1225-03-0011.1	FWW 030001	FWL13 Less than 1 acre LOI	Woodbridge.	Ivy Development Corp	5/19/2003	Conduct Administrative Review	5/19/2003	NYA
1225-03-0011.1	FWW 030002	FWGP6 filling of NSWC	Woodbridge	Ivy Development Corp	5/19/2003	Withdraw application	3/4/2004	NYA
1201-02-0010.1	FWW 020002	FWLI4 Verification over an acre	Carteret	Reichhold Capping Activities	12/23/2002	Conduct Administrative Review	1/27/2003	NYA
1201-02-0010.1	FWW 020001	FWLI4 Verification over an acre	Carteret	Reichhold Capping Activities	12/23/2002	Mail Document	7/17/2003	7/15/2003
1225-02-0021.1	FWW 020001	FWGP6 filling of NSWC	Woodbridge	Jasani Albert	10/23/2002	Denial Sent	12/18/2003	NYA
1216-04-0001.1	FWW 040001	FWLI1 Presence/absence LOI	Perth Amboy	NJ School Coonstruction Corp	5/24/2002	Send Approval	9/30/2004	9/30/2004
1201-02-0003.1	FWW 020001	FWGP7 fill manmade ditch/swale HW	Carteret	Borough of Carteret	4/23/2002	Mail Document	9/26/2002	NYA
2009-02-0005.1	FWW 020001	FWGP6 filling of NSWC	Linden	ISP Environmental Services Inc	4/22/2002	Mail Document	8/28/2002	NYA
1201-01-1001.3	FWW 020001	FWIPW individual permit WET	Carteret	Kinder Morgan Liquid Terminals	2/27/2002	Mail Document	7/3/2003	7/1/2003
1200-02-0002.1	FWW 020002	FWGP7 fill manmade ditch/swale HW	Carteret	NJ Turnpike Authority	2/22/2002	Conduct PM Supervisor Review	5/28/2002	NYA
1200-02-0002.1	FWW 020004	FWGP10A very minor roadcrossing	Carteret	NJ Turnpike Authority	2/22/2002	Conduct Administrative Review	3/5/2002	NYA
1200-02-0002.1	FWW 020003	FWLI4 Verification over an acre	Carteret	NJ Turnpike Authority	2/22/2002	Mail Document	5/29/2002	5/23/2002
1200-02-0002.1	FWW 020001	FWGP1 Maint. & repair of exist feature	Carteret	NJ Turnpike Authority	2/22/2002	Prepare Report	5/20/2002	5/20/2002
1201-01-1001.1	FWW 010001	FWLI4P partial verification public agency LOI	Carteret	Kinder Morgan Liquid Terminals	11/13/2001	Verify Wetland	1/14/2002	1/14/2002

Notes:

NA = not applicable

LURP = Land Use Regulation Program
FWGP = Freshwater Wetlands General Permit
FWLI = Freshwater Wetlands Letter of Interpretation
FWIP = Freshwater Wetlands Individual Permit
FWTW = Freshwater Wetlands Transition Area Waiver
NYA = not yet approved

